



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2011-0789; Directorate Identifier 2011-NE-04-AD; Amendment 39-16929; AD 2012-02-06]**

**RIN 2120-AA64**

**Airworthiness Directives;** Honeywell International Inc. TPE331-10 and TPE331-11 Series Turboprop Engines

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for the products listed above. This AD was prompted by a report of an uncontained failure of a first stage turbine disk that had a metallurgical defect. This AD requires inspecting certain serial number (S/N) first stage turbine disks, part number (P/N) 3101520-1 and P/N 3107079-1. We are issuing this AD to prevent uncontained failure of the first stage turbine disk and damage to the airplane.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in the AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** For service information identified in this AD, contact Honeywell International Inc., 111 S. 34<sup>th</sup> Street, Phoenix, AZ 85034-2802; phone: 800-601-3099 (toll free in U.S. or Canada) or 602-365-3099 (International direct); Web site: <http://portal.honeywell.com>. You may review copies of the referenced service information at the FAA, Engine & Propeller Directorate, 12 New England Executive

Park, Burlington, MA 01803. For information on the availability of this material at the FAA, call 781-238-7125.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is Document Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Joseph Costa, Aerospace Engineer, Los Angeles Aircraft Certification Office, FAA, Transport Airplane Directorate, 3960 Paramount Blvd., Lakewood, CA 90712-4137; phone: 562-627-5246; fax: 562-627-5210; e-mail: joseph.costa@faa.gov.

### **SUPPLEMENTARY INFORMATION:**

#### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to the specified products. That NPRM published in the Federal Register on August 9, 2011 (76 FR 48749). That NPRM proposed to require inspecting certain S/N first stage turbine disks, P/N 3101520-1 and P/N 3107079-1.

#### **Comments**

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM.

#### **Conclusion**

We reviewed the relevant data and determined that air safety and the public interest require adopting the AD as proposed.

### **Costs of Compliance**

We estimate that this AD affects 90 engines installed on airplanes of U.S. registry. We also estimate that it will take about 20 work-hours per engine to perform these actions, and that the average labor rate is \$85 per work-hour. Required parts cost about \$19,000 per engine. We estimate that one disk will fail the initial inspection and that repetitive inspections will be performed on 89 engines. We estimate that one engine will fail the repetitive inspections and that further repetitive inspections will be performed on 88 engines. We estimate that an additional one disk will fail those repetitive inspections before retirement. Based on these figures, we estimate the total cost of the AD to U.S. operators to be \$511,155.

### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the

national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

#### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

#### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

#### **PART 39 - AIRWORTHINESS DIRECTIVES**

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

2012-02-06 **Honeywell International Inc. (formerly AlliedSignal Inc., Garrett Engine Division; Garrett Turbine Engine Company; and AiResearch Manufacturing Company of Arizona)**: Amendment 39-16929; Docket No. FAA-2011-0789; Directorate Identifier 2011-NE-04-AD.

**(a) Effective Date**

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

None.

**(c) Applicability**

Honeywell International Inc. TPE331-10, -10AV, -10GP, -10GT, -10N, -10P, -10R, -10T, -10U, -10UA, -10UF, -10UG, -10UGR, -10UR, and TPE331-11U model turboprop engines with a first stage turbine disk, part number (P/N) 3101520-1 or 3107079-1, with a serial number (S/N) listed in Table 2 of Honeywell International Inc. Alert Service Bulletin (ASB) TPE331-72-A2156, dated December 2, 2008, installed.

**(d) Unsafe Condition**

This AD was prompted by a report of an uncontained failure of a first stage turbine disk that had a metallurgical defect. We are issuing this AD to prevent uncontained failure of the first stage turbine disk and damage to the airplane.

**(e) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(f) Initial Inspection**

(1) For first stage turbine disks, P/N 3101520-1 or 3107079-1, that have an S/N listed in Table 2 of Honeywell International Inc. ASB TPE331-72-A2156, dated December 2, 2008, inspect the disks as follows:

(i) For turbine disks with 4,100 or fewer cycles-since-new (CSN) on the effective date of this AD, perform an initial fluorescent penetrant inspection (FPI) by using paragraph 3.B.(2) through 3.B.(5) of Honeywell International Inc. ASB TPE331-72-A2156, dated December 2, 2008, within 4,500 CSN or at the next access, whichever occurs first.

(ii) For turbine disks with more than 4,100 CSN on the effective date of this AD, perform an initial FPI by using paragraph 3.B.(2) through 3.B.(5) of Honeywell International Inc. ASB TPE331-72-A2156, dated December 2, 2008, within 400 cycles-in-service (CIS) after the effective date of this AD or at the next access, whichever occurs first.

(iii) If the disk passes the FPI inspection, perform a special eddy current inspection (ECI) by using paragraph 3.B.(6) of Honeywell International Inc. ASB TPE331-72-A2156, dated December 2, 2008, before returning the disk to service.

(2) If you find a crack in the disk, remove the disk from service.

**(g) Repetitive Inspection**

(1) Thereafter, for first stage turbine disks, P/N 3101520-1 or 3107079-1, that have an S/N listed in Table 2 of Honeywell International Inc. ASB TPE331-72-A2156, dated December 2, 2008, inspect the disks as follows:

(i) Perform a repetitive inspection at each scheduled hot section inspection, but not to exceed 3,600 hours-since-last inspection. Use paragraph 3.B.(2) through 3.B.(5) of Honeywell International Inc. ASB TPE331-72-A2156, dated December 2, 2008.

(ii) If the disk passes the FPI inspection, perform a special ECI by using paragraph 3.B.(6) of Honeywell International Inc. ASB TPE331-72-A2156, dated December 2, 2008, before returning the disk to service.

(2) If you find a crack in the disk, remove the disk from service.

**(h) Definition**

For the purpose of this AD, “next access to the first stage turbine disk” is defined as the removal of the second stage turbine nozzle from the turbine stator housing.

**(i) Alternative Methods of Compliance (AMOCs)**

The Manager, Los Angeles Aircraft Certification Office, FAA, may approve AMOCs for this AD. Use the procedures found in 14 CFR 39.19 to make your request.

**(j) Related Information**

(1) For more information about this AD, contact Joseph Costa, Aerospace Engineer, Los Angeles Aircraft Certification Office, FAA, Transport Airplane Directorate, 3960 Paramount Blvd., Lakewood, CA 90712-4137; phone: 562-627-5246; fax: 562-627-5210; e-mail: [joseph.costa@faa.gov](mailto:joseph.costa@faa.gov).

(2) Contact Honeywell International Inc., 111 S. 34<sup>th</sup> Street, Phoenix, AZ 85034-2802; phone: 800-601-3099 (toll free in U.S. or Canada) or 602-365-3099 (International direct); Web site: <http://portal.honeywell.com>; for a copy of the service information referenced in this AD.

**(k) Material Incorporated by Reference**

(1) You must use the following service information to do the actions required by this AD, unless the AD specifies otherwise. The Director of the Federal Register approved the incorporation by reference (IBR) of the following service information under 5 U.S.C. 552(a) and 1 CFR part 51:

(i) Honeywell International Inc., Alert Service Bulletin TPE331-72-A2156, December 2, 2008.

(2) For service information identified in this AD, contact Honeywell International Inc., 111 S. 34<sup>th</sup> Street, Phoenix, AZ 85034-2802; Web site: <http://portal.honeywell.com>; or call Honeywell toll free at 800-601-3099 (U.S./Canada) or 602-365-3099 (International Direct).

(3) You may review copies of the service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803. For information on the availability of this material at the FAA, call 781-238-7125.

(4) You may also review copies of the service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information

on the availability of this material at an NARA facility, call 202-741-6030, or go to  
[http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

Issued in Burlington, Massachusetts, on January 12, 2012.

Peter A. White,  
Manager, Engine & Propeller Directorate,  
Aircraft Certification Service.

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